

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claim 1 (Currently amended): A method comprising:

obtaining information characterizing the color response of a display device associated with a client residing on a computer network by guiding the client through a color profiling process that profiles the color response of the display device, wherein the color profiling process includes estimating a black point for the display device based on a black point selection by a user of the display device, estimating a gamma for the display device based on a gamma selection by the user, and estimating the gray balance of the display device based on a gray balance selection by the user, and wherein estimating the gray balance comprises displaying a set of gray elements including a gray element identified by the gamma selection and other gray elements that exhibit plus/minus differences in red, green and blue (RGB) relative to the gray element identified by the gamma selection, wherein the gray balance selection by the user is a selection of one of the gray elements in the set of gray elements;

modifying a color image based on the information to improve the accuracy of the color image when displayed on the display device; and

delivering the modified color image to the client via the computer network for display on the display device.

Claim 2 (Canceled)

Claim 3 (Previously Presented): The method of claim 1, further comprising guiding the client through the color profiling process by delivering a series of instructional web pages to the client.

Claim 4 (Canceled)

Claim 5 (Currently amended): The method of claim 1, wherein the color profiling process further includes estimating a gamma for the color response of each of the red, green and blue color channels associated with the display device.

Claim 6 (Canceled)

Claim 7 (Currently amended): The method of claim 1, wherein estimating the gamma includes the color profiling process includes:

~~estimating the black point of the display device;~~

estimating a coarse gamma for the display device; and

estimating a fine gamma for the display device based in part on the coarse gamma,

wherein the method further includes; ~~and~~

generating a color profile based on the black point, the coarse gamma, the fine gamma, and the gray balance.

Claim 8 (Original): The method of claim 7, wherein estimating the black point of the display device includes:

displaying a first range of gray elements on the display device;

setting the contrast of the display device to maximum;

setting the brightness of the display device to maximum;

reducing the brightness of the display device until the darkest of the gray elements is barely visible;

selecting the gray element that is barely visible.

Claim 9 (Original): The method of claim 8, wherein estimating the coarse gamma includes:

displaying a second range of gray elements with a dithered approximately 50% gray background;

selecting the gray element that appears to most closely blend with the background; and

estimating a single coarse gamma for the red, green, and blue channels of the display device based on the gray level of the selected gray element.

Claim 10 (Original): The method of claim 9, wherein estimating the fine gamma includes:

displaying the selected gray element within a third range of gray elements with the dithered background, wherein the gray levels of the third range of gray elements are more closely spaced than the gray levels in the second range of gray elements and substantially centered about the gray level of the selected gray element;

selecting the gray element in the third range of gray elements that appears to most closely blend with the dithered background; and

estimating a single fine gamma for the red, green, and blue channels of the display device based on the gray level of the selected gray element in the third range of gray elements.

Claim 11 (Original): The method of claim 10, wherein estimating the gray balance includes:

displaying the selected gray element from the third range of gray elements among a fourth range of red-, green-, and blue-shifted gray elements with the background;

selecting the gray element in the fourth range of gray elements that appears to most closely blend with the background; and

estimating individual gammas for the red, green, and blue channels of the display device based on the gray level of the selected gray element in the fourth range of gray elements.

Claim 12 (Previously Presented): The method of claim 1, wherein the color profiling process includes:

displaying a dark element and a darker element on the display device;

setting the contrast and brightness of the display to maximum;

reducing the brightness until the darker element is not visible;

reducing the brightness until the dark element is barely visible;

displaying a first range of gray elements with a dithered approximately 50% gray background;

selecting the gray element in the first range that appears to most closely blend with the dithered background; and

estimating the gamma of the display device based on the gray level of the selected gray element.

Claim 13 (Canceled)

Claim 14 (Previously Presented): The method of claim 1, further comprising:
guiding the client through the color profiling process by delivering a series of instructional web pages to the client;
obtaining the information by generating a web cookie based on results of the color profiling process; and
transmitting the web cookie to a remote server in the computer network.

Claim 15 (Original): The method of claim 14, wherein the remote server modifies the color image based on the information.

Claim 16 (Original): The method of claim 14, wherein the remote server delivers the modified color image to the client.

Claim 17 (Original): The method of claim 1, further comprising transmitting the information to a remote server in the computer network, the remote server modifying the color images based on the information.

Claim 18 (Original): The method of claim 1, further comprising transmitting the information to a plurality of remote servers in the computer network, and modifying a plurality of color images based on the information, wherein each of the remote servers modifies and delivers at least one of the color images to the client.

Claim 19 (Original): The method of claim 1, further comprising obtaining the information by obtaining information characterizing the color responses of a plurality of display devices associated with a plurality of clients residing on the computer network.

Claim 20 (Original): The method of claim 1, wherein the color image forms part of content received by the client from a remote server.

Claim 21 (Original): The method of claim 1, wherein the computer network is the world wide web, and the color image forms part of a web page received by the client from a web server residing on the computer network.

Claim 22 (Original): The method of claim 1, wherein the color image includes a plurality of color images stored on image servers residing on the computer network, and the color images form parts of web pages received by the client from web servers residing on the computer network, the image servers and web servers being distinct from one another.

Claim 23 (Original): The method of claim 1, further comprising modifying the color images before the delivery of the color images to the client.

Claim 24 (Original): The method of claim 1, further comprising:

transmitting a web page from a web server to the client, wherein the web page includes an image tag identifying the color image on a color image server residing on the computer network;

transmitting the information as part of a web cookie to the color image server, wherein the color image server modifies the color image based on the information; and

transmitting the color image from the color image server to the client.

Claim 25 (Previously Presented): The method of claim 1, further comprising:

transmitting a first web page from a color profile server to the client, the web page guiding the client through a color profiling process to obtain the information;

transmitting a second web page from a web server to the client, wherein the web page includes an image tag identifying the color image on a color image server residing on the network;

transmitting the information as part of a web cookie to the color image server, wherein the color image server modifies the color image based on the information; and

transmitting the color image from the color image server to the client.

Claim 26 (Currently amended): A system comprising:

a web server residing on a computer network, the web server transmitting web pages to remote clients residing on the computer network;

a color image server residing on the computer network, the color image server transmitting color images referenced by the web pages to the clients for display on display devices associated with the clients;

a color profile server residing on the computer network, the color profile server guiding the clients through a color profiling process to obtain information characterizing the color responses of the display devices associated with the clients, wherein the color profiling process includes estimating black points for the display devices based on black point selections by users of the display devices, estimating gammas for the display devices based on gamma selections by the users, and estimating gray balances of the display devices based on a gray balance selections by the users, and wherein estimating the gray balances comprises for each of the display devices, displaying a set of gray elements including a gray element identified by the gamma selection and other gray elements that exhibit plus/minus differences in red, green and blue (RGB) relative to the gray element identified by the gamma selection, wherein the respective gray balance selection at each of the display devices is a selection of one of the gray elements in the set of gray elements; and

one or more color correction modules that modify the color images transmitted by the color image server based on the information to improve the accuracy of the color images when displayed on the respective display device.

Claim 27 (Original): The system of claim 26, wherein the one or more color correction modules include a plurality of color correction modules, each of the color correction modules being resident with one of the color image servers on the network.

Claim 28 (Original): The system of claim 26, wherein the color profile server delivers a series of instructional web pages to the clients.

Claim 29 (Canceled):

Claim 30 (Original): The system of claim 26, wherein the color profiling process includes estimating a gamma for the color response of each of the red, green and blue color channels associated with each of the display devices.

Claim 31 (Canceled)

Claim 32 (Currently amended): The system of claim 26, wherein estimating the gammas
~~the color profiling process includes:~~

~~estimating the black point of each of the display devices;~~
estimating a coarse gamma for each of the display devices; and
estimating a fine gamma for each of the display devices based in part on the coarse gamma, wherein the method further includes; ~~and~~
generating a color profile based on the black point, the coarse gamma, the fine gamma; and the gray balance.

Claim 33 (Currently amended): The system of claim 32, wherein estimating the black points of each of the display devices includes:

displaying a first range of gray elements on each of the display devices;
setting the contrast of each of the display devices to maximum;
setting the brightness of each of the display devices to maximum;
reducing the brightness of each of the display devices until the darkest of the gray elements is barely visible;
selecting the gray element that is barely visible.

Claim 34 (Currently amended): The system of claim 32, wherein estimating the coarse gammas includes for each of the display devices:

displaying a second range of gray elements with a dithered approximately 50% gray background;
selecting the gray element that appears to most closely blend with the background; and
estimating a single coarse gamma for the red, green, and blue channels of each of the display devices based on the gray level of the selected gray element.

Claim 35 (Currently amended): The system of claim 34, wherein estimating the fine gammas includes for each of the display devices:

displaying the selected gray element within a third range of gray elements with the background, wherein the gray levels of the third range of gray elements are more closely spaced than the gray levels in the second range of gray elements and substantially centered about the gray level of the selected gray element;

selecting the gray element in the third range of gray elements that appears to most closely blend with the background; and

estimating a single fine gamma for the red, green, and blue channels of each of the display devices based on the gray level of the selected gray element in the third range of gray elements.

Claim 36 (Currently amended): The system of claim 35, wherein estimating the gray balances includes for each of the display devices:

displaying the selected gray element from the third range of gray elements among a fourth range of red-, green-, and blue-shifted gray elements with the background;

selecting the gray element in the fourth range of gray elements that appears to most closely blend with the background; and

estimating individual gammas for the red, green, and blue channels of each of the display devices based on the gray level of the selected gray element in the fourth range of gray elements.

Claim 37 (Currently amended): The system of claim 26, wherein the color profiling process includes for each of the display devices:

displaying a dark element and a darker element on each of the display devices;

setting the contrast and brightness of the display to maximum;

reducing the brightness until the darker element is not visible;

reducing the brightness until the dark element is barely visible;

displaying a first range of gray elements with a dithered approximately 50% gray background;

selecting the gray element in the first range that appears to most closely blend with the back ground; and

estimating the gamma of each of the display devices based on the gray level of the selected gray element.

Claim 38 (Canceled)

Claim 39 (Previously Presented): The system of claim 26, wherein the web pages generated by the color profile server, when executed by one of the clients, generates a web cookie based on results of the color profiling process, each of the clients transmitting the web cookie to one of a plurality of remote servers for correction of the color images.

Claim 40 (Original): The system of claim 39, wherein the one or more color correction modules modify the color images based on the information in the web cookie.

Claim 41 (Original): The system of claim 40, wherein the color image server delivers the modified color images to the clients.

Claim 42 (Original): The system of claim 26, wherein the clients transmit the information to one or more of the color image servers, and the one or more color correction modules includes a plurality of color correction modules, each of the color correction modules being resident with one of the color image servers, wherein each of the color correction modules modifies the color images based on the information.

Claim 43 (Original): The system of claim 26, wherein the computer network is the world wide web.

Claim 44 (Currently amended): A method comprising:

obtaining information characterizing the color response of a display device associated with a client residing on a computer network, wherein the information includes information based on an indication of gamma, gray balance and black point;

incorporating the information in a cookie;

transmitting the cookie with a request for a color image;

modifying the color image based on the information in the cookie to improve the accuracy of the color images when displayed on the display device; and

delivering the modified color image to the client for display on the display device, wherein the method includes estimating the gray balance of the display device based on a gray balance selection by the user, and wherein estimating the gray balance comprises displaying a set of gray elements including a gray element identified by a gamma selection and other gray elements that exhibit plus/minus differences in red, green and blue (RGB) relative to the gray element identified by the gamma selection, wherein the gray balance selection by the user is a selection of one of the gray elements in the set of gray elements.

Claim 45 (Original): The method of claim 44, further comprising obtaining the information by guiding the client through a color profiling process that profiles the color response of the display device, the color profiling process including delivery of a series of interactive, instructional pages to the client, wherein completion of the color profiling process requires no more than four clicks with a pointing device operated by a user associated with the client.

Claim 46 (Original): The method of claim 44, wherein the cookie includes a profiler cookie written to the client by a first server that obtains the information, and a subscriber cookie written to the client by a color image server that delivers the modified color image.

Claim 47 (Original): The method of claim 46, further comprising transferring at least some of the contents of the profiler cookie to the color image server, whereby the color image server writes the subscriber cookie to the client, the subscriber cookie being thereafter transferred to the color image server when the client requests delivery of images from the color image server.

Claim 48 (Currently amended): A system comprising:

a web server residing on a computer network, the web server transmitting web pages to remote clients residing on the computer network;

a color image server residing on the computer network, the color image server transmitting color images referenced by the web pages to the clients for display on display devices associated with the clients;

a color profile server residing on the computer network, the color profile server guiding the clients through a color profiling process to obtain information characterizing the color responses of the display devices associated with the clients, wherein the information includes information based on an indication of gamma, gray balance and black point, and the color profile server incorporates the information in a cookie, wherein obtaining the information includes estimating black points for the display devices based on black point selections by users of the display devices, estimating gammas for the display devices based on gamma selections by the users, and estimating gray balances of the display devices based on a gray balance selections by the users, and wherein estimating the gray balances comprises for each of the display devices, displaying a set of gray elements including a gray element identified by the gamma selection and other gray elements that exhibit plus/minus differences in red, green and blue (RGB) relative to the gray element identified by the gamma selection, wherein the respective gray balance selection at each of the display devices is a selection of one of the gray elements in the set of gray elements; and

one or more color correction modules that modify the color images transmitted by the color image server based on the information in the cookie to improve the accuracy of the color images when displayed on the respective display device.

Claim 49 (Original): The system of claim 48, wherein the color profile server obtains the information by guiding the client through a color profiling process that profiles the color response of the display device, the color profiling process including delivery of a series of interactive, instructional pages to the client, wherein completion of the color profiling process requires no more than four clicks with a pointing device operated by a user associated with the client.

Claim 50 (Original): The system of claim 48, wherein the cookie includes a profiler cookie written to the client by the color profile server, and a subscriber cookie written to the client by the color image server.

Claim 51 (Original): The system of claim 48, wherein the color profile server transfers at least some of the contents of the profiler cookie to the color image server, whereby the color image server writes the subscriber cookie to the client, the subscriber cookie being thereafter transferred to the color image server when the client requests delivery of images from the color image server.

Claim 52 (Currently amended): A method for profiling the color response of a display device, the method comprising:

estimating the black point of the display device based on a black point selection by a user of the display device;

estimating a coarse gamma for the display device based on a coarse gamma selection by the user;

estimating a fine gamma for the display device based on a coarse gamma selection by the user, wherein the fine gamma is determined in part on the coarse gamma;

estimating the gray balance of the display device based on a gray balance selection by the user, and wherein estimating the gray balance comprises displaying a set of gray elements including a gray element identified by the gamma selection and other gray elements that exhibit plus/minus differences in red, green and blue (RGB) relative to the gray element identified by the gamma selection, wherein the gray balance selection by the user is a selection of one of the gray elements in the set of gray elements; and

generating a color profile based on the black point, the coarse gamma, the fine gamma, and the gray balance.

Claim 53 (Original): The method of claim 52, wherein estimating the black point of the display device includes:

- displaying a first range of gray elements on the display device;
- setting the contrast of the display device to maximum;
- setting the brightness of the display device to maximum;
- reducing the brightness of the display device until the darkest of the gray elements is barely visible;
- selecting the gray element that is barely visible.

Claim 54 (Original): The method of claim 53, wherein estimating the coarse gamma includes:

- displaying a second range of gray elements with a dithered approximately 50% gray background;
- selecting the gray element that appears to most closely blend with the background; and
- estimating a single coarse gamma for the red, green, and blue channels of the display device based on the gray level of the selected gray element.

Claim 55 (Original): The method of claim 52, wherein estimating the fine gamma includes:

- displaying the selected gray element within a third range of gray elements with the background, wherein the gray levels of the third range of gray elements are more closely spaced than the gray levels in the second range of gray elements and substantially centered about the gray level of the selected gray element;
- selecting the gray element in the third range of gray elements that appears to most closely blend with the background; and
- estimating a single fine gamma for the red, green, and blue channels of the display device based on the gray level of the selected gray element in the third range of gray elements.

Claim 56 (Original): The method of claim 55, wherein estimating the gray balance includes:

displaying the selected gray element from the third range of gray elements among a fourth range of red-, green-, and blue-shifted gray elements with the background;

selecting the gray element in the fourth range of gray elements that appears to most closely blend with the background; and

estimating individual gammas for the red, green, and blue channels of the display device based on the gray level of the selected gray element in the fourth range of gray elements.

Claim 57 (Original): The method of claim 56, wherein the fourth range of gray elements is represented as a two-dimensional array of the gray element.

Claim 58 (Original): The method of claim 57, wherein the selected gray element from the third range of gray elements is represented centrally within the two-dimensional array of the gray elements.

Claim 59 (Original): The method of claim 52, further comprising using the coarse gamma as a starting point for estimating the fine gamma, and using the fine gamma as a starting point for estimating the gray balance.

Claim 60 (Currently amended): A computer readable medium containing program code that, upon execution by a processor:

obtains information characterizing the color response of a display device associated with a client computer residing on a computer network, wherein the information includes information based on an indication of gamma, gray balance and black point, wherein obtaining the information includes estimating a black point for the display device based on a black point selection by a user of the display device, estimating a gamma for the display device based on a gamma selection by the user, and estimating the gray balance of the display device based on a gray balance selection by the user, and wherein estimating the gray balance comprises displaying a set of gray elements including a gray element identified by the gamma selection and other gray elements that exhibit plus/minus differences in red, green and blue (RGB) relative to the gray element identified by the gamma selection, wherein the gray balance selection by the user is a selection of one of the gray elements in the set of gray elements;

modifies a color image based on the information to improve the accuracy of the color images when displayed on the display device; and

delivers the modified color image to the client via a computer network for display on the display device.

Claim 61 (Original): The computer readable medium of claim 60, wherein the program code is contained both in physical data storage media and signals transmitted between the client computer and other resources on the computer network.

Claim 62 (Currently amended): A computer readable medium containing program code that, upon execution by a processor:

requests a color image from a remote server;

transmits to the remote server information characterizing the color response of a display device associated with a client residing on a computer network, wherein the information includes information based on an indication of gamma, gray balance and black point, the information having been obtained by estimating a black point for the display device based on a black point selection by a user of the display device, estimating a gamma for the display device based on a gamma selection by the user, and estimating the gray balance of the display device based on a gray balance selection by the user, and wherein estimating the gray balance comprises displaying a set of gray elements including a gray element identified by the gamma selection and other gray elements that exhibit plus/minus differences in red, green and blue (RGB) relative to the gray element identified by the gamma selection, wherein the gray balance selection by the user is a selection of one of the gray elements in the set of gray elements; and

receives from the remote server the requested color image following modification of the color image by the remote server based on the information to improve the accuracy of the color image when displayed on the display device.

Claim 63 (Original): The computer readable medium of claim 62, wherein the program code is contained both in physical data storage media and signals transmitted between the client computer and other resource on the computer network.

Claim 64 (Canceled)